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THE ROLE OF BUSINESS NETWORKS IN INTERNATIONALIZATION

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Dedicated to Ene and Enn.

ABSTRACT

Based on multi case-study method, this thesis examines the role of the business networks on the internationalization process of three Portuguese companies. The study empirically integrates the stage models of internationalization with network perspective. These findings show that due to limited resources and limited network relationships, firm´s initial internationalization had an incremental pattern. As companies started to develop their network relationships, they gained access to other firms´ resources. Through their network partners, companies also gained access to new foreign markets and consequently hastened its internationalization process. During the internationalization process, firms may lock in unproductive relationships, which in turn inhibit the development of its international activities.

Keywords: *Business Networks*, *Internationalization*, *Stage Models*

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1. INTRODUCTION

There are wide amounts of theoretical and empirical studies published over the 40 decades to study the firms´ internationalization process. Some of these theories consider internationalization to be a sequential process within the firm increasing the firm´s commitment to international operations (Johanson & Vahlne, 1977). Others challenge the traditional internationalization and are observing firms starting their international operation from the very beginning of their foundation (Rennie, 1993). Among several theories and approaches the so called network model has received much attention. This theory explains how relationships through business networks lead to internationalization process (Johanson & Mattsson, 1988).

Problem definition

Research studies on the business networks have found that activities in networks allow companies to form relationships which in turn are important to gain access to additional resources and new markets(Chetty & Blankenburg Holm, 2000). For example, SMEs tend to compensate for fewer internal resources available for innovation by acquiring knowledge and complementary assets through their network relationships (Möller, et al., 2005). Consequently, firms linked to a network might increase its ability to innovate and develop its technology (Chetty & Stangl, 2010), to increase their market potential and value-added and hasten their internationalization process (Vissak, 2004). Business relationships are also useful to obtain financial support, acquire information about new markets (Chetty & Wilson, 2003) and technological changes (Chetty & Stangl, 2010) and for gaining ideas for new innovations which they would be unable to accomplish on their own (Campbell-Hunt & Chetty, 2004). Researchers consider, that role of the business networks is crucial on firms´ internationalization process. Thus, there are some contra-arguments. For example, during the internationalization process, firms may lock in unproductive relationships, which in turn inhibit the development of its international activities. However, there are still limited empirical studies in this field.

Importance of the problem

Thus, business network theme isn't only on researchers agenda. In today's globalization era, firms´ managers are faced with different challenges. In order to provide highly competitive products and services, companies are pressed to acquire complementary resources and develop additional capabilities which they don't have. As a result, the joining of forces with others firms, organizations and individuals have a growing importance. Beside access to additional resources and capabilities, network relationships may trigger firms´ international expansion. So, the companies may collectively answer to the actual challenges of global competition. Network development should be opportunity especially for companies with small size domestic market such as Portugal(Fontes & Coombs, 1997). In order to encourage small and medium sized enterprises to collaborate, to acquire resources and boost internationalization activities, the network approach should be interesting matter also for governments and policy-makers.

The aim and research tasks

The aim of this research is to examine the role of network relationships on firm´s internationalization process, integrating incremental view of internationalization with network perspective. In order to achieve the research aim, following research tasks have been set up:

- Based on research about theoretical literature, to build propositions about firms' foreign involvement and the impact of network relationships on firms´ internationalization.

- To test the propositions by using a case study analysis about three Portuguese companies.

This research is inspired by Tiia Vissak´s fruitful investigation about foreign-owned enterprises in Estonia.

The structure of the thesis

Excluding the introduction, this dissertation has five parts. First, the extant literature on firm's internationalization processes is reviewed. Second, based on literature view, three propositions are developed. The third part addresses methodological issue in which case analyzes is used. The fourth part discusses findings. Finally, conclusions and suggestions for future research are presented in the firth part.

2. LITERATURE REVIEW

In this chapter the theoretical context of firm´s internationalization are presented. The first section of this chapter is dedicated to stage models of internationalization. An overview about network perspective is presented in the second section. In this study, the term "*internationalization*" includes inward and as well outward involvement in international business and is defined by Welch and Luostarinen (1988), as *"the process of increasing involvement in international markets"*.

2.1. The stage models of internationalization

According to stage models, firms' internationalization is an incremental process which involvs several number of stages. The most known stage models, such as Uppsala model, Innovation models and Finnish model are presented in following section.

2.1.1. The Uppsala Internationalization model

The Uppsala internationalization model (called also U-model) is based on articles published by researchers at the University of Uppsala (known as Nordic School) and focuses on the internationalization process of individual firm (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975). Model states that after experience gained from the domestic market, firms start to move to foreign markets. Firm´s commitment in foreign operations increases gradually according to its accumulated experience and gained knowledge of the international markets. This holds for the two dimensions of firm´s foreign involvement (Johanson & Wiedersheim-Paul, 1975). First, firms tend to enter new markets with successively greater psychic distance[1]. It means that firms enter those markets that they know best, and after gaining sufficient knowledge, they try to enter farther markets. Second, according to accumulated knowledge, firm usually follow a certain sequence from low to high commitment modes of operations, called "establishment chain". So, the companies start from no regular export to export via agents, later as sales grow, agents are replaced with their own sales subsidiary, and eventually, in some cases, firms start manufacturing in the host country.

Firm´s internationalization is like a *"journey into the unknown"* (Eriksson, et al., 2000). The role of knowledge is fundamental for this venture. U-model states that firm´s internationalization process is driven by their acquired knowledge from foreign operations (Johanson & Vahlne, 1977). The distinction is made between objective and experiential knowledge (Penrose, 1959). International activities require both kind of knowledge. Thus, the experiential knowledge is argued to be more valuable because it reduces the firm´s perceptions of market uncertainty and is crucial for firms´ subsequent

[1] **Psychic distance** — factors that make it difficult to understand foreign environments (Johanson & Vahlne, 2009) These factors are language, culture, political systems, education and industrial development levels(Johanson & Wiedersheim-Paul, 1975).

commitments in the foreign country (Johanson & Vahlne, 1977, 1990). The U-model implies that experiential knowledge is acquired through experience in foreign market activities. This is also the main reason for slow and incremental internationalization process (Johanson & Vahlne, 1977). However, Johanson and Vahlne pointed out that firms can internationalize more quickly, if a firm is large, resourceful and have experiences from a market with similar conditions, and if the foreign market conditions are stable and homogeneous (Johanson & Vahlne, 1990).

2.1.2. The Innovation-related internationalization models

Other stage models - Innovation-related internationalization models (I-models) - build on Rodgers´ theory of innovation diffusion presented in 1962 explaining firm´s exportation in terms of innovation adaption behaviour (Andersen, 1993). It means that each subsequent stage to foreign market is viewed as an innovation for the firm (Gankema, et al., 2000). In addition to Uppsala model, this approach suggests that besides knowledge, various other factors such as: managerial characteristics (Lim, et al., 1991), managers perceptions of international markets (Bilkey & Tesar, 1977) and faster new product development capability (Lim, et al., 2006) influence firms foreign involvement.

2.1.3. The Finnish model

While previous models focus mainly on firm´s outward flow, the Finnish model presents more holistic view about firms´ foreign expansion process. Model highlights that earlier inward activities, and thereby gained knowledge or access to resources and capabilities can influence firms' later outward operations and vice versa (Welch & Luostarinen, 1988). The suggested pattern of internationalization starts with activity in domestic market followed by inward activities[2] and outward operations and ends with a cooperative stage of internationalization. Thus, internationalization is not a continuous process and de- and re internationalization may occur in any stage. Also, it's not necessary to pass all stages of traditional pattern. Some stages could be skipped or a company may even stop at one stage (Welsh and Luostarinen, 1988; Korhonen *et al*, 1996; Luostarinen 1994).

In addition to the operation mode and markets described in Uppsala model, researchers have pointed out two other dimensions of internationalization such as sales objects and organizational capacity, thereby a firm can increase its internationalization process in some dimension more than in others (Welch and Luostarinen, 1988; Luostarinen 1994). Due to managers *"lateral rigidity"* or managers´ unwillingness to apply new and unfamiliar strategies, the internationalization process may still be slow and reactive (Luostarinen, 1994).

From the research on stage models, it can be concluded, that firms with limited resources have slow and gradual internationalization process driven by market knowledge. In stage model perspective, internationalization process may include leapfrogging stages and de-and re-internationalization.

2.1.4. The limitations of the literature on stage models

Recent research has provided considerable theoretical and empirical support for stage models. However, there are several limitations regarding stage model. As the model is suggested to explain the early internationalization of organizations having limited resources and few network relationships (Vissak, 2004), it fails to explain the

[2] Inward activities are importing, licensing, franchising agreements, relations with global clients and joint-ventures (Luostarinen, 1994)

internationalization of the experienced international firms (Melin, 1992). On the other hand, the stage models have been criticized for putting too much emphasis on experiential knowledge and psychical distance. Leonidou and Katsikeas (1996) provided some examples which show that psychical distance doesn't determine the firm´s foreign market selection. For example, smaller firms usually choose foreign countries with low entry barriers and bigger firms are more likely to enter in "hard" markets. If the market size of psychically close countries doesn't justify the amount of investment required, a firm may bypass these markets.

There has been much debate over the applicability of these models. For example in their recent study about Portuguese Born Globals[3][4], Simões and Domiguinhos (2001) observed, that enterprises engaged in international operations soon after their birth, their sales rate in foreign markets were high, they used different modes of operation simultaneously and didn't follow the sequence expected by the notion of psychic distance. These findings show that "stage" models presented in previous sections don't provide the full understanding about Born Global´s phenomenon.

Apparently, existing single theories provide only a partial explication of company´s foreign market activities. Covello and McAuley (1999) suggesting that firm´s internationalization is best understood by integrating major theoretical frameworks. In order to provide global view about firm´s internationalization process the network approach is presented in following section.

[3] The other terms used in the literature are: International New Ventures, High Technology Start-ups, Global Start-ups etc.
[4] By the definition of Andersson and Wictor (2003) Born Global is "*company that has achieved a foreign sales volume of at least 25% within 3 years of its interception and that seeks to derive significant competitive advantage from the use of resources and the sales of outputs in multiple countries.*"

2.2. The Network Approach

Over the last decade´s network perspective has been developed in various disciplinary fields, such as sociology, organization theory, social policy, innovation studies, political science, industrial marketing and purchasing, economic geography and entrepreneurship studies (Araujo & Easton, 1996). These authors stress that:*"…the term network has acquired the character of an umbrella, catch all term under which a variety of theoretical and methodological positions is social sciences have sought refuge."* In this thesis it will be utilized in terms of business networks and defined as *"set of two or more connected business relationships"*(Anderson & Narus, 2004). The following section provides an overview of intercompany relationships and their impact on firm´s internationalization.

The important contribution to business network theory was made by Industrial Marketing and Purchasing IMP group. Their initial research project in early 1980 was based on interaction approach and demonstrated the importance of stable and long-term relationships between suppliers and customers (Håkansson & Snehota, 1995).

In order to analyze connected business relationships, the Actors-Recourses-Activities (ARA) model was developed during the IMP project. According to this model, the actors, such as individuals, organizations and institutions perform activities and develop relationships with other actors to gain access to resources. Resources refer to anything that actors explicitly value, such as know-how, equipment, human resources – which companies can use and generate value for themselves and others actors. Activities occur when actors combine, develop and exchange or create resources by utilizing other actors´ resources (Håkansson & Snehota, 1995).

The essence of inter-organization relationship in industrial marketing may characterize through “marriage” (Alajoutsijärvi, et al., 2001). Arguments related to this metaphor are as follows:

- Successful and long term relationships require investment of the time and effort, attraction, trust building and mutual commitment; investments and adoptions with each other (Håkansson & Snehota, 1995)
- Partners engaged in relationships benefit in several ways:*”…uncertainty is reduced, resources are joined and costs are divided, problems are solved and new solutions are developed together in more or less harmonious co-operation”* (Alajoutsijärvi, et al., 2001).

2.2.1. Internationalization in networks

The recent literature is that the industrial network perspective can also been used to analyze firms´ internationalization process (Johanson & Vahlne, 1990). From this perspective the foreign market selection and entry initiatives emanate from opportunities created through network contacts within domestic and international market (Fletcher, 2001), rather than influenced by the market and its cultural characteristics (Johanson & Vahlne, 1977). Several studies have provided strong support for this approach (Blankenburg Holm, et al., 1996, Chetty & Stangl, 2010, Johanson & Mattsson, 1988). Indeed, the model is suggested to explain rapid internationalization of the smaller knowledge-intensive firm (Ojala, 2009; McDougall, 1994; Bell 1995; Coviello & Munro, 1995, 1997; Loane & Bell, 2006).

In terms of internationalization, Johanson and Mattsson (1988) suggest that a firm may expand from domestic to foreign markets through existing relationships within domestic and international markets. According to the same authors, there are three ways to become established on foreign markets: by establishment of relationships with firms which belong to the network in new countries (international extension); by development of relationships and increasing resource commitments in already established foreign networks (penetration) and by connecting networks in foreign countries by using the existing relationships of the firm as bridges to other foreign networks (international integration).

There are two types of network relationships used for entering foreign markets: formal and informal relationships. While formal relationships are related to business activities between two or more actors, such as firm and its customers, distributors, suppliers, competitors, and so on (Ojala, 2009), the informal relationships are related to social contacts with colleagues, friends and family members (Ellis & Pecotich, 2001).

The network model developed by Johanson and Mattson (1988) provides an explanation, why and how firms internationalize their operations. The basic assumption of this model is that a firm’s position in the network is a key factor to maintain and develop in order for the firm to reach its objectives. Both a company and the level of its market internationalization influence this process. According to Johanson and Mattson (1988) firms can be divided into four categories: early starter, the late starter, the lonely international and the international among others. A model of these four situations is presented in Appendix 1.

*The Early Starter´*s internationalization process is quite similar to U-model. Thus, the initiative to go abroad is usually encouraged by distributors and customers in the foreign markets rather than taken by the firm itself (Johanson & Mattsson, 1988). Consequently, a customer from foreign market may become the driver for introducing the early starter into a new network (Chetty & Blankenburg Holm, 2000).

As *The Lonely International* has connections in abroad, it has acquired experience and knowledge about foreign operations and markets. Its members in domestic networks have still little international experience. In fact, the lonely international company has capabilities to promote international expansion of its counterparties in the network (Chetty & Blankenburg Holm, 2000).

T*he Later Starter* has no international business experience or sufficient resources to expand its international activity. In this case, highly internationalized domestic network may be the driving force for starting operations in abroad (Chetty & Blankenburg Holm, 2000). Therefore, highly internationalized network members would be the source of experiential knowledge for an internationalizing firm (Hadley & Wilson, 2003). Majkgård & Sharma (1998) added that usually, *Later Starters* use to be client followers. As their client goes to abroad, they have to follow. Otherwise firm risks losing the client in the domestic market (Majkgård & Sharma, 1998).

The International Among Others is a highly internationalized firm which operates in highly internationalized environment. The firm is connected to various international networks and may use these relationships to get into networks in new foreign countries (Johanson & Mattsson, 1988).

According to this model, a firm moves between these categories by accumulating foreign market knowledge (Hadley & Wilson, 2003) and by extending their network (Chetty & Blankenburg Holm, 2000). However, international network extension process has an incremental nature. As it is argued by Penrose that experiential knowledge is more endemic and implies to learning activities. Such knowledge is gained and developed gradually through increasing interacting with network partners. By interaction with network partners, inexperienced firm can learn from the lessons of others (Bonaccorsi, 1992) and internationalize without going through the same experience (Eriksson, et al., 2000) and internationalization steps (Vissak, 2004).

Researchers highlight that development of cooperative relationships, such as international joint ventures, licensing, management contracts and strategic alliances, with others firms and organizations may be critical for firm´s internationalization (Blankenburg Holm, et al., 1996). Cooperative mode of the relationships is mostly important in terms of access and development of additional resources to achieve innovation success (Möller, et al., 2005). In the next subsection, an overview about the role of network relationships is presented.

2.2.2. The role of network relationships in firm's internationalization

Firm´s network relationships may have positive and negative impact on firm´s internationalization process. On one hand, network relationships may drive and facilitate firm´s foreign involvement. On other hand, close relationships with its business partner may inhibit its international journey (Coviello and Munro, 1997). However, researchers have mostly pointed out the positive influence of network relationship on the firm internationalization process:

- Firm´s network relationships may trigger and motivate firms' initial internationalization intention (Welch & Luostarinen, 1988, Korhonen, et al., 1996, Zain & Ng, 2006, Chetty & Patterson, 2002).
- Network relationships are a source of market knowledge. An inexperienced firm can learn from the lessons of others and internationalize without going through the same experience and internationalization steps (Vissak, 2004).
- Network relationships allow the firm access to resources which complement their activities and compensate their deficiencies (Bonaccorsi, 1992).

- Lowers costs, minimize risk of internationalization and reduces time on to foreign markets (Chetty & Patterson, 2002, Zain & Ng, 2006, Coviello and Munro, 1995, Ellis & Pecotich, 2001).
- Through relationships on domestic and foreign market a firm can obtain new contacts which in turn may accelerate the access and entry possibilities into new markets (Johanson & Mattsson, 1988). Consequently, network relationships may influence the firm´s internationalization pace and pattern (Coviello and Munro 1995, 1997).
- Network relationships help firms to obtain initial credibility and reputation (Möller, et al., 2005, Zain & Ng, 2006)
- Through network relationships firms might increase its ability to innovate and develop its technology. (Chetty and Stangl, 2010), Möller et al, 2005).
- Business relationships are also useful for obtaining information about technological changes, potential buyer/supplier, surrounding networks (Chetty and Stangl, 2008, Vissak, 2004).

Apparently, firm´s involvement in the foreign networks may provide rapid and successful growth in the international arena. Thus, network relationships can also inhibit firms´ internationalization. For example, firms within the network may control which country markets a firm enters (Chetty and Blankenburg Holm 2000). In their study, Coviello and Munro (1995) observed that New-Zealand´s high-technological firms appeared willing to sacrifice some control over operations in order to supplement their marketing weaknesses and to gain market access. Consequently, managers may lose touch with the market dynamics which in turn may weaken the firms´ position in their network (Coviello and Munro, 1995).

2.2.3. The limitations of the literature on network approach

According to the previous section, firm´s network relationships helps to overcome the problems of limited resources, experience, lack of knowledge and credibility. Majkgård & Sharma (1998) argued that in order to find partners to cooperate with, to detect needs, and establish relations with firms abroad is still resource and time consuming.

Regarding to the network model, there are several weaknesses pointed out by Chetty and Blankenburg Holm (2000). First, the model does not acknowledge the importance of decision-maker and firm characteristics in availing of the international opportunities which emerge from the networks. Secondly, the model does not explain how to shift from one position to other. For example, how an early starter becomes an international among others (Chetty & Blankenburg Holm, 2000).

On above it can be concluded that firms linked to a network may hasten their process of internationalization as they obtain the necessary resources, develop their capabilities and gain market access. Network membership may also inhibit the internationalization process.

2.3. Three propositions for the empirical analyses

Based on the analyses of literature review above about the firms' internationalization process, propositions are formulated in following the subchapter.

According to the stage models, firms should internationalize like "rings in the water", i.e. in the absence of market-specific knowledge, firms should spread its international activities in a slow and incremental manner (Madsen & Servais, 1997). Due to limited resources and network relationships, they start their operation in the domestic market. Afterwards, firms can enter new markets with successively greater psychic distance and are able to follow a certain sequence from low to high commitment modes of operations. Based on above, the following proposition may be suggested:

Proposition 1: The companies lacking resources and network relationships start their internationalization from nearby countries and simpler market operation modes. Afterwards, they may progress to more distant markets and more demanding market operation forms.

According to Håkansson and Snehota (1989), *"no firm is an island"*. It means that firms in business landscape are interconnected in numerous ways through the variety of relationships, which form the business networks. These relationships may involve the exchange of resources among network members. Through their business networks, for example, firms may gain access to necessary resources, such as technical know-how, equipment, financial resources, marketing knowledge, contacts and valuable information which are necessary for entering into new markets. As companies obtain the necessary resources, they develop their capabilities and may gain access to foreign markets and consequently hasten their internationalization process.

On the other hand, firms within the network may control which country markets a firm enters and what kind of operation mode should be used. Consequently, it can be concluded, that the network membership may also inhibit the internationalization process.

Derived from these affirmations, the second and third propositions are:

Proposition 2: The firms linked to a network might considerably quicken their internationalization as they obtain the necessary resources, develop their capabilities and gain market access.

Proposition 3: Firm´s network relationships may inhibit the firm´s internationalization process.

3. RESEARCH METHOD

In this subchapter, the explanation of research method and design are presented.

This thesis uses the multiple case study method. According to Yin (1994) a case study is an empirical inquiry, which focuses on a contemporary phenomenon within its real-life context and boundaries between phenomenon and its context are not clearly evident.

The method was selected on the basis of two important observations. First, a case study allow to obtain rich details and to gain deep insight about new topics (Eisenhardt, 1989), such as the theory about the firm internationalization. Second, case study allows to answer “how” and “why” questions (Yin, 1994). As the aim of this thesis is to examine the impact of network relationships on firm´s international pattern and process, it seems to fit with recommendation of the Yin (1994).

The other, the survey method is suitable if studied phenomenon can be measured, quantified and expressed numerically. It implies profound understanding of the phenomenon. As there is no consensus understanding about network relationships and its influence on firm´s internationalization process the survey method isn´t adequate to examine this subject.

Selection of the Case companies

The three cases selected for the research concern companies with different characteristics, with different stages of the internationalization process and companies where the phenomenon under study were transparently observable (Yin, 1994). The profile of studied companies are presented in Appendix 2.

Data collection

Information for the case study was collected from several sources. The main method of data collection was conducted through interviews with firms´ representatives who were involved in the internationalization process. The case-study were conducted by interviewing Nuno Periquito from Vision-Box, Pedro Gil form ROFF and Carlos B from ALPHA company.

Before each interview the historical information from newspapers and specialized journals, company´s brochures, firm- and industry associated websites were searched. This information was used to provide a background of the firm´s internationalization. As there is no access to the relevant secondary data about ALPHA´s company, the firm´s case-study is based only on information provided during the face-to-face interview. The interviews with Vision-Box and ROFF lasted for about one hour. The ALPHA´s interview lasted about ten hours.

The semi-structured open-ended interviews were conducted and tape recorded. The interview results were combined and verified with the secondary data to produce a detailed report of each firm. The reports were sent back to interviewees for confirmation of their accuracy. In addition, e-mail communication was used to collect some complementary information. The interview period lasted from August to September 2012. The interviews were conducted in Portuguese language and later translated in English.

Data analysis used in this theses involved pattern matching and explanation building, as proposed by Yin (1994). This approach was aided by a variety of analytical tools suggested by Miles and Huberman (1984), such as checklists, event listings and Time-Ordered Matrices.

At first, each company was analyzed separately. This process was carried out in two steps. First, the chronological patterns of firms´ internationalization events were identified. Second, the firm´s network relationships and its impact on internationalization process was studied. Then, inter-company comparison was made and compared with research propositions.

In next section, the overview about case companies´ internationalization is presented.

4. CASE COMPANIES

In the present chapter the information about the interviewed case companies are presented. Each case company is studied in two different ways. At first, each firm´s internationalization pattern was identified. Second, the influence of the network relationships of each firm was searched.

4.1. Vision-Box

4.1.1. The firm´s internationalization process.

The company was started in 2001 as a spin off from a NETI[5]. It was founded by four individuals who had scientific background in research and knowledge in development on Computer Vision and Software Engineering at the Aerospace Department of INETI.

5 Portuguese National Institute of Engineering technology and Innovation

In its early activity period, the company was dedicated to the development and installation of an advanced digital video surveillance systems (CCTV) and a People Counting application. These systems were mostly installed into local commercial complexes owned by companies having well established international connections. Through these local partners, in 2007, both solutions reached Spain, Italy and Germany. Consequently, this was the firm´s first stage of internationalization.

The second stage of Vision-Box´s internationalization was related to the company's new innovation in biometrics which was a result of more than 20 years of research in the INETI and filled a market niche that was still undiscovered. There are two main projects which boosted the company's internationalization: the Portuguese Citizen Card and the RAPID project.

As the new Portuguese Citizen Card integrated biometric data, the Vision-Box was responsible for the delivery of the equipment that is used as a platform to capture multiple biometric data and to produce the ID-card and passports ((Vision-Box, 2012). During the 2010 World Cup in South Africa, an all-in-one portable unit was created and later adapted by Portuguese embassies around the world (Vision-Box, 2012). Different biometrics solutions followed to enter the market in S. Tomé Principe (2008) and Sweden (2010).

Another important project with Portuguese authorities was the RAPID[6] project. The initial system was developed by Vision-Box based on facial recognition and allows automated border crossing of passengers holding EU/EEA electronic passports. This was the first ever developed ICAO[7] compliant face-matching gate. By 2010, the system was implemented at all Portuguese international airports and on main sea borders. The

6 RAPID project - Automatic Recognition of Passengers with Credentials
7 ICAO - International Civil Aviation Organization

development of a new innovative solution led to a rapid internationalization. In the joint-venture projects, the biometric driven border control was established at main UK airport terminals during 2008 and 2009, followed by projects in Finland (2008/2009), Venezuela (2009) and Nederland (2011/2012). Currently there is a Rwanda project in progress.

Actually, the firm has sales subsidiaries in Brazil (2008), Germany (2008), United Kingdom (2010), Qatar (2010) and Thailand (2012). In the near future, Vision-Box plans to enter Asian, Middle-Eastern and North American market.

During its activity the company has received several recognitions. For example, in 2010, Vision-box was included in the Deloitte & Touche's "Deloite Technology Fast 500 EMEA 2010" with 643% of annual growth rate between 2009 and 2010 (Vision-Box, 2012). By year 2011, there are 100 employees and the company has local presence in 5 regions.

From above, following conclusion can be made. At first, company entered neighboring markets with sporadic projects through its internationalized Portuguese partners. Due to the development of innovative technology, the company "jumped" into technologically advanced countries. In this phase joint-venture projects were used. In some cases, opportunities in foreign countries lead to open sales subsidiaries. According to these observations, the first proposition is supported partly.

4.1.2. The impact of networks on the firm´s internationalization

Vision-Box´s business partners play an important role on its internationalization process. At first they allowed the company to reach new market which is a difficult or extremely costly process to perform alone as a company. Secondly, cooperation with partners has been important in order to offer a complete solution to its customers (Periquito, 2012). The “big jump” to Nordic countries, to England and to Nederland was achieved through joint-venture projects with its international business partners. Vision-Box has several long-term partners. In abroad, the firm cooperates, among others, with Gapgemini, Accenture, and Fujitsu Services.

However, the best and most profitable characteristics of the Vision-Box are that the product design, development, production and delivery are almost entirely completed by the company (Periquito, 2012). It provides the company with the flexibility and the fast delivery time to the customer. However, if there is any technology that is impossible or too costly to develop, company involves its technology partners in the process (Periquito, 2012).

In collaboration with authorities in different countries, Vision-Box has implemented several solutions based on biometrics. Even universities play an important role in firm´s activities. For example, the RAPID project in Faro airport was conducted by the University of Algarve (Vision-Box, 2012).

Moreover, the company co-operates with its customers. It has already happened that a client´s problem solving has lead to the development of a new product that now is sold to other customers (Periquito, 2012). The firm has found its customers mostly through its partners and through international events, such us seminars, fairs and conferences. International events have served not only to find clients but are also important for sharing of information and ideas about technology achievements with industry partners and to receive information about market trends and technological development (Periquito, 2012).

From the above, it can be conclude that Vision-Box has clearly benefited from its network partners. Through them, the firm has developed new products, received complementary technology, information about market trends and market opportunities, increased its turnover and entered new markets. The company don´t has relevant negative experience with its network members. According to company´s behavior, only the second proposition is supported.

4.2. ROFF

4.2.1. The firm’s internationalization process

Company was founded in 1996, when four of SAP’s most experienced Portuguese consultants joined together to set up Portugal’s first SAP consultancy.

During first years of its activity, company operated locally. Firm´s first stage of internationalization began in 2000 with sporadic projects in Brazil and France and in neighboring countries of Portugal. Later followed others markets, such as Angola (2005) and Northern African countries (2006).

While at the beginning of its activity ROFF was dedicated to Portuguese large enterprises. From 2006, the company started to provide services to customers of the SME[8] segment. However, managers realized that the local market was too small to continue with successful growing rate (Gil, 2012). Consequently, the second stage of the firm´s international activities started in 2006 when the company decided to open subsidiaries in nearby markets to strengthen its position there. Angola´s branch was opened in 2006. A year later subsidiary in France was established. Previous projects in Norway and new market opportunities in Scandinavia lead to an opening of the Swedish branch in 2010. A year later, with establishment of subsidiary in Morocco, the company

[8] SME – small and medium sized enterprise

intended to approach Morocco, Maghreb countries, Northern African, Francophone countries in the West and Central Africa. Finally, the Brazilian branch was inaugurated in 2012. The company also executed activities in Middle-East (ROFF, 2012). Due to cultural differences and difficulties to make business with Middle-East, the company decreased its involvement on this market. Consequently it was the first stage of de-internationalization. However, the company is currently seeking a partner to re-enter to Middle-East market (Gil, 2012).

Much of the company’s internationalization success is due to its highly skilled and loyal workforce and the company´s commitment to its employees. Due to the company´s working environment and team spirit, the company had the 4th position in the list of Best Portuguese Company to Work For 2011, elaborated by the Great Place to Work Institute (ROFF, 2012).

By the end of the 2011, ROFF, holding the leading position in the implementation of SAP solutions in Portugal, has been set out operation in 42 countries worldwide. The number of employees has increased to 520. The total turnover is 42M EUR (ROFF, 2012) and 60% percent of it came from the international projects (Gil, 2012).

From the above, it can be concluded that ROFF had a gradual internationalization process. At first, company entered neighboring countries, such as Brazil, France and Angola, followed by Scandinavian and North African countries. Company gradually increased its presence in these markets, starting with sporadic projects and ended up with the establishment of wholly owned subsidiaries. The company´s internationalization process involved also the stage of de-internationalization. These findings demonstrate that ROFF clearly followed the behavior formulated in first proposition.

4.2.2. The impact of networks on the firm´s internationalization

ROFF has strong network relationships with its clients and the main business partner – SAP. SAP is a highly internationalized company, which is dedicated on development and commercialization of different management software. Almost 95% of ROFF services consist of implementations of SAP software to its final clients. During the last eight years these companies have had very close and mutual relationships. From its partner, ROFF has received support and advice and has been invited to adapt SAP solutions to the French market. The SAP company in turn studied with the ROFF strategy. For example it adapted the strategy of nearshoring - one of the pillars that support the ROFF´s international expansion strategy.

ROFF has close, trusting and transparent relationship with its clients. In total, the company had 209 active clients in 2011 of which 50 are from abroad. Most known clients, among others are Givaudan, ICA, TAAG, Sumol+Compal Sonaecom and Jerónimo Martins. Through co-operation with clients, company has developed a new product that was later included into company´s product portfolio. In addition, in several occasions, ROFF had been invited to follow its customers on foreign markets and has obtained access to new clients through its customer´s networks.

Company´s employees have the crucial role in firm´s internationalization. For example during Norway project, ROFF´s team realized that there are opportunities in this market and they communicated that knowledge to their sales department. Consequently, initial project lead to other new projects and a year later, new subsidiary was founded in Sweden. It also occurred that that company recruited a person who had excellent knowledge about market conditions providing new opportunities in Morocco. After several projects in this region a new subsidiary was opened in Casablanca.

The company has close relationships with the local legal authorities and the universities. With an agreement signed in 2009 with the Covilhã municipal council, Parkurbis and the University of Beira Interior, ROFF established a SAP technology development centre in Covilhã. In collaboration with young and qualified computer science graduates, the center is dedicated to producing standardized software for global needs. In addition, the company offers them training courses with the most experienced consultants (ROFF, 2012).

From above can be concluded that different formal and informal network relationships had a positive impact on ROFF´s internationalization. ROFF´s partners influenced the company in market selection and entry decisions, shaped the nature of supplied products and were important in obtaining new clients. In addition, ROFF received some knowledge about foreign markets in the process. It is important to highlight that ROFF´s international success is also influenced by its highly skilled and loyal workforce. According to these findings, ROFF´s network relationships had positive influence on firm´s internationalization process. Consequently, only the second proposition is supported.

4.3. ALPHA

4.3.1. The firm´s internationalization process

The ALPHA´s founder had previous experience as sales agent for scientific pharmaceutical products in Portugal and United States. As Portugal joined the European Union, the founder foresaw changes and opportunities in this sector. So, in the beginning of 2006, together with his wife, ALPHA Company was founded. At the beginning they were dedicated to distribution of scientific pharmaceutical products – anatomical posters, medical guides, brochures, guides and books etc. Materials were acquired from Spain and sold on domestic market to pharmaceutical - and others companies that are related to health care. This was also the beginning of ALPHA´s first stage of internationalization. Year 2008 was the turning-point of firms´ activity. Due to resistance experienced on domestic market and difficulties to acquire the products, the company decided to start to create and produce scientific pharmaceutical products. There were lack of financial resources and numerous obstacles for production in Portugal. So, the company was forced to organize its production in abroad. The new low-cost products were produced as follows: idea was developed in Portugal, the scientific content was created by doctors from Russia, Ukraine, India and Philippines, scientific design was provided by specialist from Japan. All these activities were guided from Portugal. ALPHA´s CEO commented: *"There is no book about how to make business in pharmaceutical industry. Also competitors didn't come to teach us. So, through our activities we learned with mistakes we made and now we find out how to make business"*

Initially the product was introduced in Portugal. But ALPHAs goal was to serve the global market. In order to gain credibility on international markets, the company opened a virtual office in United States. In the beginning of 2009, the new products were tested in Spain and South African Republics. Through a Spanish agent, new scientific pharmaceutical products reached Mexico, Columbia and Argentina. Due to complications with this specific agent, the company reduced its activity in these countries and later re-entered to Spain. During next years, the company started to export through foreign agents to Venezuela, Brazil, Russia, Australia and others countries.

In the end of 2011, the firm serves 29 foreign markets and has an export ratio of 75 per cent. The product portfolio has about 400 products. In the near future, ALPHA intends to employ more sales agents for United States, Asia and others Latin American markets; to raise its capital and to find a new partner for its business development.

It is important to mention that ALPHA´s founder has been the driving force behind firm´s rapid internationalization. He has no university degree or specific technical skills. Thus his fluency in several languages, proactivity and global vision about firm´s strategies stimulated the entry into new foreign markets.

From the above can be concluded that ALPHA has internationalized very quickly. The company started its internationalization from inward operations and the first three years were dedicated to domestic market. A year after production activities had started, the company proceeded to export through international agents in different foreign countries. At first, the products were tested in Spain and South African Republic. Followed by others countries. During its internationalization process, the company has quit and re-entered in some Latin countries. According to these findings, it can be concluded that ALPHA´s behavior only partly explains the first proposition.

4.3.2. The impact of networks on the firm´s internationalization

ALPHAs initial contacts and the motivation to internationalize was gained from previous inward operations. However, during its initial internationalization phase ALFA had few relationships and no credibility among others actors. It was a big challenge to find suitable agents, who would agree to pay initial fee of 15 000 EUR and have direct connections with final clients – the big pharmaceutical companies. Export agents were found through international events and through social networks on the internet such as LinkedIn. Credibility and trust to its partners have been gained incrementally over the time. Still today, the company has a limited number of relationships and doesn´t have direct connections with its final clients. Actually, ALPHA has relationships mostly with subcontracted persons and companies and its international agents who have their own customer networks composed by big pharmaceutical companies.

The main difficulty has been to find the right business partners. One of the ALPHA´s agents who had distribution channels in Spain and in Latin-American countries, was also a producer of scientific pharmaceutical products. Consequently, the competitor preferred to sell its own products and keep the ALPHAS´s one on a shelf. This behavior inhibited ALPHA´s evolution and growth in terms of new product development and foreign market commitment.

ALPHA has also some negative experience in cooperation with other firms and company intends to avoid cooperation activities.

It can be concluded that during its activity, ALPHA built up relationships with different actors. Still, it has only some strong network relationships. Through its business partners company has received motivation for initial outward operations, some information about foreign market business conditions and increased its own credibility. Regardless of negative effect of network relationship, ALPHAs journey in foreign markets was inhibited by its business partner. According to these observations, both, the second and the third propositions should be supported.

5. DISCUSSION OF STUDIED CASES

In this chapter, validity of every research proposition is discussed utilizing information gained from analysis of three studied companies.

5. 1. The case firms’ internationalization process

According to first proposition, the companies lacking resources and network relationships start their internationalization from nearby countries and simpler market operation modes. Afterwards, they may progress to more distant markets and more demanding market operation forms.

The studied firms´ internationalization in terms of foreign market entry and entry mode are summarized chronologically in Appendix 3. In this appendix, internationalization is divided into three periods. During first period (0-3 years), ROFF and Vision-Box are dedicated on domestic market. ALPHA starts its inward activities from inception by sourcing sales objects which are distributed in the domestic market. As there are no outward activities in this period, studied companies don’t filling requisition of the Born Global recommended by Andersson and Wictor (2003).

In the beginning of the activity, studied companies had limited resources. Regarding to initial network relationships, all companies had at least one founder with previous international experience and contacts with foreign enterprises. But it didn’t influence considerably firms’ initial internationalization decisions.

Second period (4-7 years) can be characterized by its initial outward operations. At first companies entered to markets with similar business environment. ROFF´s foreign market choice to Brazil and France was clearly influenced by criteria of psychic distance (Johanson & Vahlne, 1977). Vision-Box entry to Spain, Italy and Germany was facilitated by its domestic country network members. Alpha´s initial market choice didn't follow psychic distance criteria at all. Spain was chosen by its market size, and relations with Latin Americans countries. The Republic of South Africa was selected by its fame of "hard market". During relatively short period, ALPHA spread it activities in 5 different continents.

During the third period (8- years), the companies continued their internationalization process. While ROFF continued to follow incremental pattern from nearby markets to more distant ones, Vision-Box, specialist in biometrics is surprising by jumping to technologically advanced countries such as Nordic markets and England. The so called high psychic distance of these countries was overcome by firm´s new innovation. This supports the theory proposed by Forsgren and Hagström (2005) who concluded that firms with new innovations are forced to internationalize quickly in order to benefit from first mover advantage.

Regarding the operation forms, all studied companies started with simplest mode of internationalization. While ROFF and Vision-Box started with sporadic projects and finally established subsidiaries, the choice of Alpha were only agents.

ROFFs internationalization process clearly supports the incremental pattern suggested by Nordic school (Johanson & Vahlne, 1977) - the company at first entered with simple modes of operations to psychically close countries and continued with distant countries and more complicated operation forms. Only the initial trajectory of Vision-Box internationalization followed gradual development. ALPHA´s internationalization behavior is very similar to Born Global´s cases dealt in Simões and Dominguinhos (2001) research. Still, by definition, ALFA don't attend basic requisitions of Born Globals. Results of the first proposition are summarized in Appendix 4.

From the above, it can be concluded that due to limited resources and few network relationships, examined firms´ initial internationalization was followed by the incremental pattern of internationalization. Foreign markets activities were started from nearby countries and with simpler market operation modes. Afterwards, companies progressed to more distant markets with more demanding market operation forms. According to these observations, the first proposition should be supported. However, the choice of the foreign market isn´t always influenced by psychic distance. In addition, others factors, such as new innovations may quicken firm´s internationalization process. Moreover, the internationalization process observed in the firms also included stages of the de-internationalization.

5.2. The impact of networks on the internationalization of the selected firms

5.2.1. Positive impact of networks

According to the second proposition, firms linked to a network might considerably quicken their internationalization as they obtain the necessary resources, develop their capabilities and gain market access.

In general, internationalization process of the studied firms has been a positive influence for firms´ internationalization. All enterprises used its network relationships to reach to foreign market. ALPHA established initial contacts during its inward activities which later encouraged the development of outward operations (Welch & Luostarinen, 1988). ROFF was invited by its partner and clients to follow and support them in foreign market. On the other hand, the firm´s pilot projects leaded to finding of new clients and new international projects. Vision-Box made its first internationalization step through its internationalized Portuguese partners. During subsequent internationalization, Vision-Box´s relationship with its partners was crucial for the implementation of their innovation in foreign markets. Partners´ complementary technology enabled the company to offer complete solution to its final customers. Moreover, co-operation with its large sized business partners allowed the company to participate in complex and costly international projects. From its close and mutual relationship with its major partner, ROFF received mostly the market knowledge, support and advices. Through its relationships with its clients and universities, ROFF and Vision-Box have been developed new products and increased its market potential and value-added.

ROFF´s inter-personal ties within the company have crucial role during identification of foreign market opportunities. It is important to highlight that ROFF´s international reputation and success is also influenced by its highly skilled and loyal workforce.

ALPHA´s close relationship with its agents increased its credibility close to its final clients – big pharmaceutical companies. On the other hand, ALPHA has benefited from the reputation of these multinationals by proving its credibility as a trustworthy company (Möller, et al., 2005). Still, APLHA has only some strong network relationships. Results of the second proposition are summarized in Appendix 5.

From above, it can be concluded that network relationships of the studied firms have mostly positive influence on firms´ internationalization. From their network partners, companies received motivations, credibility, complementary technology, information about market trends, opportunities and market knowledge. In co-operation with its clients, firms developed new products and increased its market potential and value-added. Throw their network partners, companies also gained access to new foreign markets. From the above, it can be concluded that the second proposition should be supported. These findings are in accordance with Vissak (2004), Chetty and Stangle (2010); Zain and Ng (2006) and Coviello and Munro (1995, 1997). Regard to network model, I´m agree with Chetty and Blankenburg Holm (2000), who claimed that the model does not acknowledge the importance of decision-maker and firm characteristics in availing of the international opportunities which emerge from the networks. In addition, organizational culture, firm size and structure influenced internationalization studied of the studied firms.

5.2.2. Negative impact of networks

According to third proposition, the firm´s network relationships may inhibit the internationalization process. Studied companies had mostly positive experience with its business partners. Still, ALPHAS international partners inhibited its international evolution. From above, it can be concluded that also third proposition is supported.

Thus can’t be fully agree with critics of Majgård and Sharma (1988) who claimed that internationalization through business relationships are still time and resource consuming. The studied companies internationalized rapidly and were compensated by opportunities on abroad

6. CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

In today’s globalization era, firms´ managers are faced with different challenges. In order to provide highly competitive products and services, companies are pressed to acquire complementary resources and develop additional capabilities which they don't have (Chetty & Blankenburg Holm, 2000; Campbell & Cooper, 1999; Coviello & Munro, 1995, 1997; Möller, et al., 2005; Fontes & Coombs, 1997). As a result, the joining of forces with others firms, organizations and individuals have a growing importance. Beside an access to additional resources and capabilities, network relationships may trigger firms´ international expansion (Chetty & Blankenburg Holm, 2000; Coviello & Munro, 1995, 1997; Vissak, 2004).

This thesis focused on the role of the networks on firm's ´ internationalization. The study examined three Portuguese companies. After initial activities in domestic markets, these firms started foreign activities from nearby countries and with simpler market operation modes. Afterwards, examined companies progressed to more distant markets with more demanding market operation forms. The first finding is that only the firm´s initial internationalization has incremental pattern due to its limited resources and few relationships. Thus foreign market selection can´t be explained only through concept of psychic distance. Consequently, it can be concluded that the firm´s initial internationalization is partly in accordance with tradition stage theories´ suggested by Johanson and Vahlne, 1977 and Luostarinen, 1994.

As companies started to be connected through network relationships, they gained access to others firms´ resources. From their network partners, examined companies received motivations for subsequent outward operations, credibility, complementary technology, information about market trends and opportunities and market knowledge. In co-operation with its partners, firms developed new competitive products, increased its market potential and value-added. Through their network partners, companies also gained access to new foreign markets and consequently hastened its internationalization process. ALPHA company also experienced negative influence of network relationships. During its initial internationalization activities, company´s was locked in unproductive relationships, which in turn inhibited the development of its international activities. It can be concluded that firm´s network relationships may provide access to resources and quicken firm´s internationalization process. In some cases, unproductive relationship may inhibit the firm´s internationalization development. (Vissak, 2004, Johanson & Mattsson, 1988, Zain & Ng, 2006).

In addition, others factors, such as firm´s new innovations and highly skilled and loyal workforce quicken up firm´s internationalization process.

From above, three main conclusions about the role of business networks in the firm´s internationalization are summarized:

- Due to limited resources and network relationships, firm´s initial internationalization had incremental pattern.
- Firm´s network relationships may provide access to resources and quicken firm´s internationalization process.
- In some cases, unproductive relationship may inhibit firm´s internationalization process.

This study has several limitations. At first, the sample of the study is too small to be conclusive. Second, only one of the firms provided access to financial data. Consequently, it wasn´t possible to draw the clear picture about firm´s international growth.

In this globalization era, all firms are directly or indirectly interconnected with others firms and organizations. This study shows that network relationships are the source of opportunities: it may quicken firm´s internationalization and provide access to resources. Thus, business networks have also a dark side - they may lock companies into unproductive relationships (Gulati, et al., 2000) and consequently inhibit company´s international development. Consequently, more attention should be paid to how and with whom these relationships are established.

One suggestion is to explore how existing informal relationships, such as employees lead to an expansion of firm´s international activities. The second suggestion is to study the negative impact of networks in firm´s internationalization.

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APPENDECES

Appendix 1. The Internationalization and the network model

		Degree of internationalization of the market (production net)	
		Low	High
Degree of internationalization of the firm	Low	The Early Starter	The Late Starter
	High	The Lonely International	The International Among Others

Source: Johanson and Mattsson, 1988

Appendix 2. Profile of studied firms

Firm	Product or service	Turnover (Million €)	Firm size (No. of Employees)	Firm Age (years)	Years of International Activity	% of Sales From International Markets	1st Foreign Market
Vision-Box	Biometrics´ solutions	7 (a)	100	11	4	80%	Spain
ROFF	SAP solutions	42	520	16	12	60%	Angola
ALPHA (b)	Scientific pharmaceutical products	0,15	5	6	3	75%	Spain; Republic of South Africa

(a)Data from 2009
(b) In order to maintain anonymity, the real name of this firm is not disclosed.
Source: elaborated by author

Appendix 3. Listing of the Firms´ International Market Development Events (until 2011)

Firm Age	Vision-Box* PRODUCT 1	Vision-Box* PRODUCT 2	Vision-Box* PRODUCT 3	ROFF	ALPHA
0-3 years	N/A	N/A	N/A	N/A	Year 1 Spain Inward operations (2006) Year 3 Russia, Ukraine, Philippines, Japan Inward operations (2008)
4-7 years	Year 7 Spain, Italy and Germany Sporadic projects (2007) ↓ Germany Establishment of sales subsidiary (marketing company) (2008)			Year 5 Brazil Sporadic projects (2000) France Sporadic projects (2000) ↓ Establishment of subsidiary (2007)	Within year 4-6 Spain and South African Republic international agent (2009) Mexico, Columbia and Argentina International agent (2009) Australia, Brazil, Russia, Venezuela, India International agent (2010) Eastern Europe

→ Subsequent commitment on foreign market

* Based on the functions and characteristics, author divided products into three categories:
PRODUCT 1 - CCTV and People Counting Solution
PRODUCT 2 - eGates (VB i-match 4)
PRODUCT 3 - vb e-pass solutions (vb e-pass portable and VB e-pass kiosk)

Appendix 3. Listing of the Firms´ International Market Development Events (until 2011)

Firm Age	Vision-Box * PRODUCT 1	Vision-Box * PRODUCT 2	Vision-Box * PRODUCT 3	ROFF	ALPHA
8- years		Within year 8-12 United Kingdom Several projects in cooperation with Accenture and Fujitsu Services (2008/2009) ↓ Establishment of subsidiary (marketing company) (2010) Finland Two projects: Helsinki-Vantaa Airport (2008) and Vaalimaa border crossing between Russia and Finland (2009/2010) Venezuela Sporadical project in Airport of Simón Bolívar de Maiquetía (2008) ↓ Brazil Establishment of subsidiary (marketing company) in 2008 Qatar Establishment of subsidiary (marketing company) in 2010 Nederland Joint-venture project with Accenture and Capgemini (2011/2012)	Year 8 S. Tomé Principe No regular export activities (2008) Sweden No regular export activities (2008) Year 10 Portuguese Embassies all over the world No regular export activities (2010)	Within years 8-16 Angola Sporadic projects (2005) ↓ Establishment of subsidiary (2006) Northen African countries Sporadic projects (2006) ↓ Morocco Establishment of subsidiary (2011) Norvway Sporadic projects (2009) ↓ Sweden Establishment of subsidiary (2010)	N/A

Source: Elaborated by author

Appendix 4. Validity of Proposition 1.

Affirmations	Firm age	0-3 years	4-7 years	8- years
Company has limited resources and few network relationships.	Vision-Box	+	+	
	ROFF	+	+	
	ALPHA	+	+	N/A
The company enters similar countries.	Vision-Box	N/A	+	
	ROFF	N/A	+	+
	ALPHA	N/A	+/-	N/A
The company progress from simpler to steadily more demanding market operation forms.	Vision-Box	N/A	+	
	ROFF	N/A	+	+
	ALPHA	N/A	+	N/A

Appendix 5. Validity of Proposition 2 and 3.

Proposition 2	Vision-Box	ROFF	ALPHA
Throug its network partners, firm gained access to foreign markets.	+	+	+
Throug its network partners, company obtained necessary resources, such as:			
Initial motivations to internationalize			+
Credibility and reputation	+/-		+
Complementary technology	+		
Information about market trends	+		
Information about market opportunities	+	+	
Access to new clients	+	+	+
Market knowledge	+	+	+
Throug its network partners, company developed its capabilities.	+	+	+/-
Proposition 3			
Company´s relationships with its actors inhibited firms internationalization.	-	-	+